

What Is Claimed Is:

1 1. A reflection type liquid crystal display device,
2 comprising:
3 a first insulation substrate that is transparent and has
4 a transparent electrode on an inner surface thereof;
5 a second insulation substrate having a reflection
6 electrode on an inner surface thereof, wherein a
7 surface of the reflection electrode has
8 hemi-ellipsoid bumps;
9 a liquid crystal layer inserted between the transparent
10 electrode and the reflection electrode; and
11 a device for generating an electrical field between the
12 transparent electrode and the reflection electrode.

1 2. The reflection type liquid crystal display device
2 according to claim 1, wherein the first insulation substrate
3 is a glass substrate.

1 3. The reflection type liquid crystal display device
2 according to claim 1, wherein the transparent electrode is an
3 ITO (indium tin oxide) layer.

1 4. The reflection type liquid crystal display device
2 according to claim 1, wherein the reflection electrode is an
3 aluminum (Al) layer.

1 5. The reflection type liquid crystal display device
2 according to claim 1, wherein the hemi-ellipsoid bump has a long
3 axis, a short axis and a height.

1 6. The reflection type liquid crystal display device
2 according to claim 1, wherein the long axis is 5~20 μ m.

1 7. The reflection type liquid crystal display device
2 according to claim 6, wherein the short axis is shorter than
3 the long axis.

1 8. The reflection type liquid crystal display device
2 according to claim 5, wherein the height is 0.5~2 μ m.

1 9. The reflection type liquid crystal display device
2 according to claim 1, wherein a cross (or horizontal) section
3 of the hemi-ellipsoid bump is an ellipse.

1 10. The reflection type liquid crystal display device
2 according to claim 1, wherein the hemi-ellipsoid bump is an
3 inclined hemi-ellipsoid bump, and a cross (or horizontal)
4 section of the inclined hemi-ellipsoid bump is an ellipse.

1 11. The reflection type liquid crystal display device
2 according to claim 1, wherein the device for generating an
3 electrical field is a thin film transistor.

1 12. The reflection type liquid crystal display device
2 according to claim 11, wherein the thin film transistor is
3 formed on the second insulation substrate and a drain electrode
4 of the thin film transistor electrically connects the
5 reflection electrode.

1 13. The reflection type liquid crystal display device
2 according to claim 11, further comprising:
3 an organic insulation layer formed between the thin film
4 transistor and the reflection electrode.

1 14. A reflection type liquid crystal display device,
2 comprising:

3 a first insulation substrate that is transparent and has
4 a transparent electrode on an inner surface thereof;
5 a second insulation substrate having a reflection
6 electrode on an inner surface thereof, wherein a
7 surface of the reflection electrode has
8 hemi-ellipsoid bumps;

9 a liquid crystal layer inserted between the transparent
10 electrode and the reflection electrode; and

11 a device for generating an electrical field between the
12 transparent electrode and the reflection electrode;
13 wherein the hemi-ellipsoid bump has a long axis, a short
14 axis, and a height;

15 wherein the long axis is 5~20 μ m, the short axis is shorter
16 than the long axis, and the height is 0.5~2 μ m.

1 15. The reflection type liquid crystal display device
2 according to claim 14, wherein the first insulation substrate
3 is a glass substrate.

1 16. The reflection type liquid crystal display device
2 according to claim 14, wherein the transparent electrode is an
3 ITO (indium tin oxide) layer.

1 17. The reflection type liquid crystal display device
2 according to claim 14, wherein the reflection electrode is an
3 aluminum (Al) layer.

1 18. The reflection type liquid crystal display device
2 according to claim 14, wherein a cross (or horizontal) section
3 of the hemi-ellipsoid bump is an ellipse.

1 19. The reflection type liquid crystal display device
2 according to claim 14, wherein the hemi-ellipsoid bump is an
3 inclined hemi-ellipsoid bump, and a cross (or horizontal)
4 section of the inclined hemi-ellipsoid bump is an ellipse.

1 20. The reflection type liquid crystal display device
2 according to claim 1, wherein the device for generating an
3 electrical field comprises a thin film transistor.